Dong Heon Han

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Robotics Department, University of Michigan, Ann Arbor, MI 48109, USA

Robot Collectives | *Artificial Intelligence* | *Soft Robotics*

Education

- **University of Michigan – Ann Arbor** *2029*
  PhD in Robotics | *Advisor: Dr. Steven Ceron* Ann Arbor, MI
- **University of Michigan – Ann Arbor** *2025*
  MS in Mechanical Engineering | *Control and Mechatronics* Ann Arbor, MI
- **Georgia Institute of Technology** *2021*
  BS in Mechanical Engineering | *High Honor* Atlanta, GA

Experience

- **Universiy of Michigan | Robotics Department** *May 2025 - Present*
  Research Assistant Ann Arbor, MI
- **Universiy of Michigan | Mechanical Engineering Department** *Aug 2023 - May 2025*
  Research Assistant Ann Arbor, MI
- **Republic of Korea Army** *Jan 2022 - July 2023*
  Signal Specialist Korea
- **Seoul National University | Biosystems Engineering Department** *Aug 2021 - Dec 2021*
  Research Assistant Seoul, Korea
- **George W. Woodruff School of Mechanical Engineering** *Aug 2019 - Aug 2021*
  Research Assistant Atlanta, GA
- **Korean Institute of Machinery and Materials** *Jun 2018 - Aug 2018*
  Research Assistant Daejeon, Korea

Patents and Publications

C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

[C.1] **D.H. Han**, M. Mehta, R. Zuo, Z. Wanger, and D. Bruder. "An Enhanced Proprioceptive Method for Soft Robots Integrating Bend Sensor and IMU", 2025 IEEE International Conference on Robotics and Automation (ICRA)

[C.2] R. Zuo, M. Mehta, **D.H. Han**, D. Bruder. "Embedded Valves for Distributed Control of Soft Pneumatic Actuators". 2024 IEEE International Conference on Intelligent Robots and Systems (IROS)

[C.3] **D.H. Han**, S.J. Byeon, K.D. Kim, G.H. Han, M.H. Cha, Y.J. Park. "Development of Path Tracking Control Algorithm for Tractor Autonomous Driving". 2021 Korean Society for Agricultural Machinery Conference

[P.1] **Blowers With Variable Nozzles**. US 11668311 B2. Issued June 6, 2023.

[T.1] **D.H. Han**. "Towards a universal sensing framework for soft robots" 2025

[S.1] **D.H. Han**, D. Bruder. “Shape-Morphing Strain Sensing Structure for Enhanced Proprioception in Soft and Wearable Robots”

[S.2] **D.H. Han**, X. Huang. “Optimized Shape Morphing and Adaptive Locomotion Control in Centimeter-Scale Untethered Soft Robots”

Honors and Awards

- **VIP Innovation Competition, 1st Place in Hardware, Devices & Robotics Track** *Apr 2021*
  Georgia Institute of Technology
  ◦ Awarded to the most innovative and active research team in Georgia Tech
- **President’s Undergraduate Research Award** *Oct 2020*
  Georgia Institute of Technology
  ◦ Research excellence scholarship as an undergraduate researcher at Georgia Tech
- **Georgia Korean American Grocers Association Scholarship Award** *Dec 2016*
  KAGRO
  ◦ Awarded for academic excellence and leadership in community service
- **Kappa Mu Epsilon** *May 2018*
  Mathematics honor society

SERVICE

- **Reviewer**
  - IEEE Transactions on Mechatronics
  - IEEE Robotics and Automation Letters
  - IEEE International Conference on Robotics and Automation (ICRA)
  - IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

REFERENCES

1. **Dr. Steven Ceron**
   Assistant Professor, Robotics Department
   University of Michigan – Ann Arbor
   Email: sceron@umich.edu

2. **Dr. Daniel Bruder**
   Assistant Professor, Mechanical Engineering Department
   University of Michigan – Ann Arbor
   Email: bruderd@umich.edu

3. **Dr. Ye Zhao**
   Assistant Professor, George W. Woodruff School of Mechanical Engineering
   Georgia Institute of Technology
   Email: ye.zhao@me.gatech.edu